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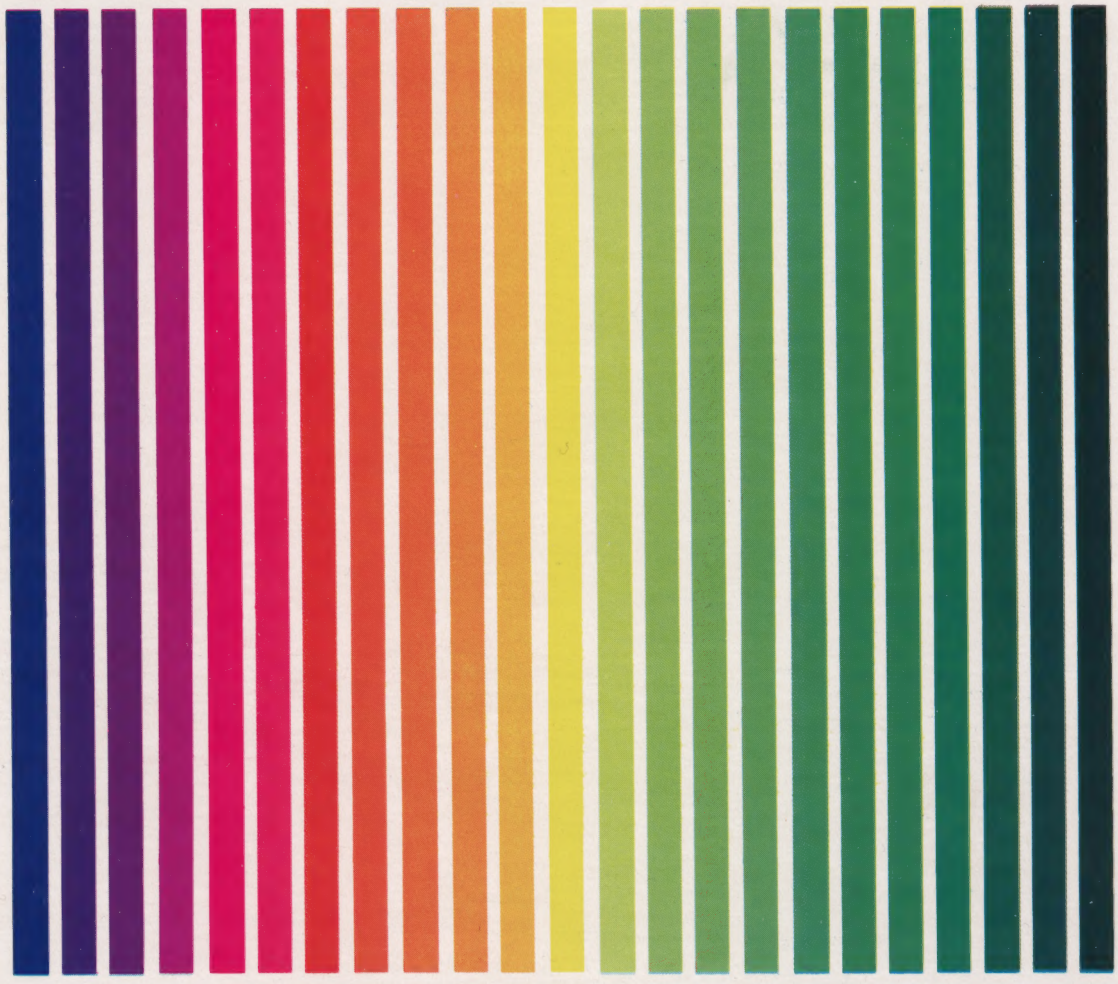

James Bayless

MUSIC PLAYER

A tool to use ATARI MUSIC COMPOSER™ files with your programs

Diskette: 16K (APX-20181)

User-Written Software for ATARI Home Computers

James Bayless

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A tool to use ATARI MUSIC COMPOSER™
files with your programs

Diskette: 16K (APX-20181)

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by

James Bayless

Program and Manual Contents©1982 James Bayless

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INTRODUCTION

OVERVIEW

MUSIC PLAYER is a companion to the ATARI Music Composer(tm) cartridge. With MUSIC PLAYER, you can have programs you've written in BASIC (or other languages) play the music you've created with Music Composer. Furthermore, MUSIC PLAYER's operation doesn't suspend your program's execution. You simply give it a command to play, and then continue with your program. MUSIC PLAYER will play the music simultaneously with program execution. In fact, you can even have music playing while you're editing a program.

Possible uses of MUSIC PLAYER include teaching music or musical concepts by using a teaching program written in BASIC along with several Music Composer files, or song guessing games, or keeping a user of any program occupied while the program performs lengthy operations.

MUSIC PLAYER operates just as if it were another ATARI input/output device. To use MUSIC PLAYER, you use the familiar commands OPEN, CLOSE, and PUT; no PEEKs or POKEs are needed. It works basically as follows. As part of your program, you include a routine to load the MUSIC COMPOSER song file into memory. After the file loads, your program issues an OPEN command using M: (to specify MUSIC PLAYER) as the device code. Your program can then start and stop the music at any time by using the PUT command. MUSIC PLAYER automatically loads into your computer when you turn it on, so all you then have to do is RUN your program.

MUSIC PLAYER is usable with assembly language and with BASIC and other languages permitting AUTORUN.SYS files and using OPEN, CLOSE, or equivalent statements.

REQUIRED ACCESSORIES

16K RAM
ATARI 810 Disk Drive
File(s) created with ATARI Music Composer (CXL4007)

OPTIONAL ACCESSORIES

ATARI BASIC Language Cartridge (for sample program)

CONTACTING THE AUTHOR

Users wishing to contact the author about MUSIC PLAYER may write to him at:

8805 North Plaza, #1108
Austin, Texas 78753

GETTING STARTED

LOADING MUSIC PLAYER INTO COMPUTER MEMORY

1. Insert the ATARI BASIC Language Cartridge in the (left) cartridge slot of your computer.

2. Turn on your disk drive. When the busy light goes out, open the door and insert the MUSIC PLAYER diskette with the label in the lower right-hand corner nearest to you. Close the door.

3. Turn on your computer and TV set.

4. When the READY prompt displays, MUSIC PLAYER has been loaded. You can now run any program that uses its capabilities.

DUPLICATING THE DISKETTE

If this is the first time you've loaded MUSIC PLAYER, make a working copy of it and save the original for backup use only. Be sure that the diskette onto which you copy MUSIC PLAYER has been formatted under DOS II and contains the DOS files. To duplicate the diskette, type DOS select option O (Duplicate File), and respond to the prompt by typing AUTORUN.SYS .

Once you've made this copy, you must also create a MEM.SAV file on the diskette (use option N on the DOS menu). (See the second paragraph under Warnings for an explanation of why you must create a MEM.SAV file.) Then turn off and turn on your computer to continue your session.

USING MUSIC PLAYER

LOADING A MUSIC COMPOSER FILE

To use MUSIC PLAYER, you must first load the Music Composer file for the desired song into computer memory. MUSIC PLAYER has reserved a section of memory to hold this information. This buffer starts at memory location 8600 (decimal) and is 2000 bytes long (you can increase the size, if necessary; see the Advanced Technical Information section).

Thus, a typical BASIC subroutine to load the Music Composer file "D:SONG.MUS" would be:

```
10 OPEN #1,4,0,"D:SONG.MUS"
20 TRAP 80
30 FOR I=0 TO 1999
40 GET #1,A
50 POKE 8600+I,A
60 NEXT I
70 PRINT "BUFFER OVERFLOW":GOTO 90
80 POP
90 CLOSE #1
100 RETURN
```

Once the music data loads, you use an OPEN command to set up MUSIC PLAYER to play it. For example,

```
OPEN #1,8,0,"M:"
```

The device specification "M:" for "Music" specifies that you're initializing MUSIC PLAYER. MUSIC PLAYER can encounter some error conditions, described under Error Conditions, while trying to execute this command, causing it to abort.

MUSIC PLAYER COMMANDS

Once you've set up MUSIC PLAYER, you can start and stop the music by issuing commands to it using the PUT byte command. For example, to start playing the music from its beginning, you would execute the command:

```
PUT #1,ASC("P")
```

where the "P" tells MUSIC PLAYER to play the music.

MUSIC PLAYER recognizes the following commands:

1. P - PLAY the music from the beginning. P always results in a start or a restart of the music from its beginning.

2. H - HALT the music at this point. H causes the music to be

suspended until you give either a P or an R command.

3. R - RESUME playing at the point the music halted. You use H and R as often as you like.

Once you issue these commands, the BASIC program continues executing while the music plays. You can even have music playing while you're editing the program itself.

ENDING MUSIC PLAYING

To end music playing altogether, issue a CLOSE command to the device number that MUSIC PLAYER is using. For example,

```
CLOSE #1
```

WARNINGS

Just like BASIC's SOUND command, you must <u>not</u> attempt any input/output to peripheral devices (such as a disk drive, a program recorder, or a printer) while MUSIC PLAYER is playing. To perform such I/O, either HALT or END the music playing first.

You must have a MEM.SAV file on every diskette using MUSIC PLAYER. Otherwise, when you go to DOS, the MUSIC PLAYER code will be overwritten and lost. Any attempt to use it after this happens can lead to system lockup, the only remedy being to turn off your computer and turn it on again.

ERROR CONDITIONS

INTRODUCTION

MUSIC PLAYER can encounter several possible errors when it tries to execute an OPEN command. These errors are identified with a number, starting at 200, to avoid conflicting with other ATARI I/O error numbers.

200 - PLAY IS ACTIVE

You've attempted to OPEN or reopen a data file, but you haven't properly CLOSEd one that was previously opened. You can have only one data file open at a time.

201 - INCORRECT FILE STRUCTURE

A data record (Phrase, Voice, Misc., or bad data) has been found that doesn't start with the correct header byte of 170. All data records must have the proper header byte before they're processed.

202 - NO PHRASE RECORD FOUND

The data file has no Phrase records. All data files must have at least one Phrase record. You might not have specified to Music Composer that you wanted to save <u>everything</u> when you saved the data file.

203 - NO VOICE RECORD FOUND

The data file has no Voice records. All data files must have at least one Voice record. You might not have specified to Music Composer that you wanted to save <u>everything</u> when you saved the data file.

204 - NO MISC RECORD FOUND

The data file has no Misc record. All data files must have a Misc record. You might not have specified to Music Composer that you wanted to save <u>everything</u> when you saved the data file.

SAMPLE APPLICATION

DEMONSTRATION PROGRAM

As an example in using MUSIC PLAYER, the diskette contains a demonstration BASIC program, along with Music Composer data files for the following songs:

1 - Ode to Joy

2 - La Donna e Mobile

3 - Bourree

4 - The Barber of Seville

5 - The Emperor Waltz

6 - Amazing Grace

7 - Dixie

8 - Greensleeves

9 - Shenandoah

10 - When Johnny Comes Marching Home Again

11 - America the Beautiful

To try the program, insert the original MUSIC PLAYER diskette and when the READY prompt displays, type

```
RUN "D:PLAYER"
```

A menu listing the songs displays. Follow the directions given on the screen and enjoy!

ADVANCED TECHNICAL INFORMATION

INCREASING THE BUFFER SIZE

The default buffer size of MUSIC PLAYER is 2000 bytes, starting at decimal address 8600 (this number was chosen for ease in remembering). This buffer size has been found to be large enough for all but very large Music Composer data files. However, should you need a larger buffer size, you can change it with the commands:

```
POKE 7462,A
POKE 7467,B
```

where

A = low byte of (8600 + your buffer size)
B = high byte of (8600 + your buffer size)

and then pressing SYSTEM RESET and typing NEW . This sequence causes MUSIC PLAYER to reinitialize with the new buffer size you've given it.

VARYING MUSIC TEMPO

One other item of interest is the location of the variable controlling the tempo of the music. Although this is read in from the Music Composer data when the OPEN command is given, you can change it at any time after that, such as when the music is playing. Its location is decimal 8441 and normal values are 1 through 9, as specified in the Music Composer manual.

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1. Name and APX number of program:

2. If you have problems using the program, please describe them here:

3. What do you especially like about this program?

4. What do you think the program's weaknesses are?

5. How can the catalog description be more accurate or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

_____ Easy to use
_____ User-oriented (e.g., menus, prompts, clear language)
_____ Enjoyable
_____ Self-instructive
_____ Useful (non-game programs)
_____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the program or user instructions:

From

STAMP

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[seal here]